Report No.: SZ12120082W01

TESTING
CNAS L3572

FCC Part 95 RF TEST REPORT

Issued to

Giant Telecom Ltd.

For

Walkie-Talkie

Model Name	:	MG160A/MG163A/MG163TPA/MG167A/ MG160TPA
Trade Name	:	Motorola
Brand Name	:	N.A
FCC ID	:	RAQMGAFJ
Standard	:	47 CFR Part 95
Test date	:	January 4,2013 –January 9, 2013
Issue date	:	January 10, 2013

by

Shenzhen MORLAB Communication Technology Co., Ltd

Tested by	Hou yiyang	*Approved by*	Wei Yanquan	*Review by*	Wang Wei
	Hou yiyang		Wei Yanquan		Wang wei
	(Test Engineer)		*(Authorized Signatory)*		*(Project Manager)*
Date	2013.1.10	*Date*	2013.1.10	*Date*	2013.1.10

CTIA Authorized Test Lab LAB CODE 20091223-00 IEEE 1725 OTA | OFTA 電訊管理局 | ilac-MRA | TAF Testing Laboratory | GCF Official Observer of Global Certification Forum | Bluetooth BQTF | FCC Reg. No. 695796

DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	January 10, 2013	First edition

1. General Information

1.1. EUT Description

EUT Type .....: Walkie-Talkie

Applicant .....: Giant Telecom Ltd.
33/F, AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong , Kowloon

Manufacturer .....: DONGGUAN WISETRONICS TELECOM EQUIPMENT CO. LTD
Elite Industrial City, Melin District, Dailing Mount Town, Dongguan Guangdong, China

Operating Frequency Range.: 462.5625MHz ~ 462.7125 MHz (GMRS 1~7 channel)
467.5625 MHz ~ 467.7125 MHz (FRS 8~14 channel)
462.5500 MHz ~ 462.7250 MHz (GMRS 15~22 channel)

Modulation Type .....: FM Modulation

RF Output Power…… …....: 0.5 W

Channel Separation……..: 25KHz

Emission Type…….: F3E

Channel Information……:

Channel	Frequency(MHz)	Description	Channel	Frequency(MHz)	Description
1	462.5625	GMRS	12	467.6625	FRS
2	462.5875	GMRS	13	467.6875	FRS
3	462.6125	GMRS	14	467.7125	FRS
4	462.6375	GMRS	15	462.5500	GMRS
5	462.6625	GMRS	16	462.5750	GMRS
6	462.6875	GMRS	17	462.6000	GMRS
7	462.7125	GMRS	18	462.6250	GMRS
8	467.5625	FRS	19	462.6500	GMRS
9	467.5875	FRS	20	462.6750	GMRS
10	467.6125	FRS	21	462.7000	GMRS
11	467.6375	FRS	22	462.7250	GMRS

Test channel……...: Channel 4 GMRS mode 462.6375MHz
Channel 11 FRS mode 467.6375MHz

Power Supply .....: Battery 3 A AA standard alkaline batteries
High Voltage: 4.5V
Low Voltage: 3.6V

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.2. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 95(Personal RADIO SERVICES) for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 95	Personal Radio Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section in CFR 47	Description	Result
1	2.1046, 95.639	RF Output Power	Pass
2	2.1047, 95.637	Modulation Characteristics	Pass
3	2.1049, 95.633, 95.635	Occupied Bandwidth And Emission Mask	Pass
4	2.1051, 95.635	Radiated Spurious Emission	Pass
5	2.1055, 95.621, 95.626	Frequency Stability	Pass
6	2.1093	RF exposure evaluation	Pass

NOTE:

The tests were performed according to the method of measurements prescribed in TIA- 603 -D.

1.3. Facilities and Accreditations

1.3.1. Facilities

Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L3572.

All measurement facilities used to collect the measurement data are located at 3/F, Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen, 518055 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 695796.

1.3.2. Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 25
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

1.3.3. Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Radiated Emission:	±3.0dB

2. 47 CFR Part 95 Requirements

2.1. RF Output Power

2.1.1. Provisions Applicable

Per FCC §2.1046 and §95.639(d): No FRS unit, under any condition of modulation, shall exceed 0.500 W effective radiated power (ERP).

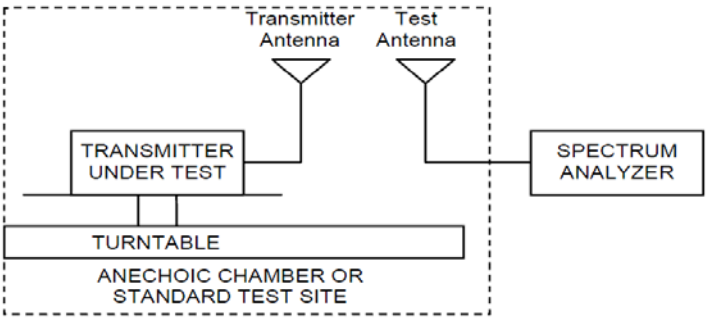
2.1.2. Test Procedure

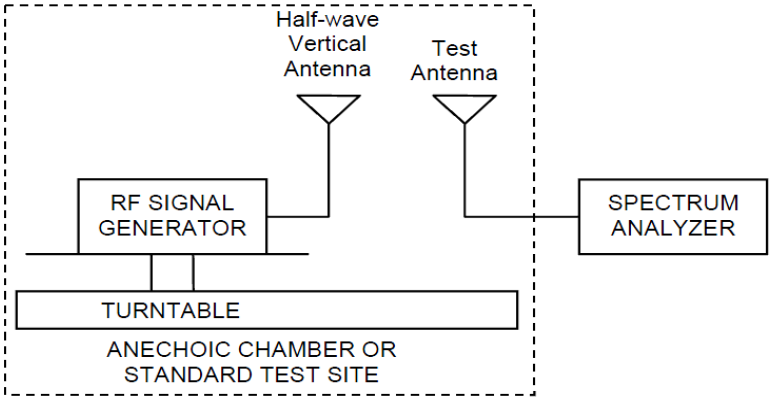
1. On a test site, the EUT shall be place at 1.6m height on a wooden turntable, and in the position closest to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3m from EUT to correspond to the frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the quasi-peak detector is used for the measurement.
4. The transmitter shall be switched on , if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
6. The transmitter shall then the rotated through 360° in the horizontal plane, until a maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The transmitter shall be replaced by a tuned dipole (substitution antenna).
10. The substitution antenna shall be oriented for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
11. The substitution antenna shall be connected to a calibrated signal generator.
12. If necessary , the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring received, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the

measuring receiver.

15. The input signal to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
16. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
17. The measure of the ERP is the larger of the two levels recorded, at the input to the substitution antenna, corrected the gain of the substitution antenna if necessary.

2.1.3 Test Setup Block Diagram





2.1.4 Test Instruments

Name Of Equipment	Manufacturer	Model	S/N	Cal. Due Date
Test Antenna - Bi-Log	Schaffner	CBL6112B	2529	2013.05
Test Antenna - Bi-Log	Schaffner	Dvulp9118	2529	2013.05
Receiver	R&S	ESU	100204	2013.04
Semi-Anechoic Chamber	ALBATROSS	9m*6m*6m	4771011001	2013.04
Test Antenna - Horn	Dahua	DH610-2	0911120001	2013.05
Test Antenna - Horn	Dahua	DH610-2	89010	2013.05

2.1.5 Test Result

Channel	Channel Description	Frequency (MHz)	Effective Radiated Power		Limit	Margin
			In dBm	In W	（w）	（w）
1	GMRS/FRS	462.5625	22.96	0.198	0.500	0.302
2		462.5875	22.75	0.188	0.500	0.312
3		462.6125	23.11	0.205	0.500	0.295
4		462.6375	23.16	0.207	0.500	0.293
5		462.6625	22.73	0.187	0.500	0.313
6		462.6875	22.10	0.162	0.500	0.338
7		462.7125	23.08	0.203	0.500	0.297
8	FRS	467.5625	22.37	0.173	0.500	0.327
9		467.5875	22.12	0.163	0.500	0.337
10		467.6125	22.72	0.187	0.500	0.313
11		467.6375	22.94	0.197	0.500	0.303
12		467.6625	22.20	0.166	0.500	0.334
13		467.6875	22.40	0.174	0.500	0.326
14		467.7125	22.82	0.191	0.500	0.309
15	GMRS	462.5500	22.08	0.161	0.500	0.339
16		462.5750	22.59	0.182	0.500	0.318
17		462.6000	22.27	0.169	0.500	0.331
18		462.6250	22.64	0.184	0.500	0.316
19		462.6500	22.37	0.173	0.500	0.327
20		462.6750	22.82	0.191	0.500	0.309
21		462.7000	22.61	0.182	0.500	0.318
22		462.7250	22.75	0.188	0.500	0.312

Test Result: PASS

3.1 Modulation Characteristics

3.1.1 Provisions Applicable

Per FCC §2.1047 and §95.637(a): A GMRS transmitter that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A FRS unit that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 2.5 kHz, and the audio frequency response must not exceed 3.125 kHz .

Each GMRS transmitter, except a mobile station transmitter with a power output of 2.5 W or less, must automatically prevent a greater than normal audio level from causing over-modulation. The transmitter also must include audio frequency low pass filtering, unless it complies with the applicable paragraphs of § 95.631 (without filtering.) The filter must be between the modulation limiter and the modulated stage of the transmitter. At any frequency (f in kHz) between 3 and 20 kHz, the filter must have an attenuation of at least 60 log 10 (f/3) dB greater than the attenuation at 1 kHz. Above 20 kHz, it must have an attenuation of at least 50 dB greater than the attenuation at 1 kHz.

3.1.2 Measurement Method

3.1.2.1 Frequency deviation

(1). Configure the EUT as shown in figure 1, adjust the audio input for 60% of rated system deviation at 1 KHz using this level as a reference (0dB) and vary the input level from –20 to +20dB. Record the frequency deviation obtained as a function of the input level.

(2). Repeat step (1) with input frequency changing to 300, 1000, 1500 and 3000Hz in sequence.

3.1.2.2 Modulation Frequency Response

(1). Configure the EUT as shown in figure 1.

(2). Adjust the audio signal generator frequency to the sound pressure level 107dBSPL at the microphone of the EUT.

(3). Vary the Audio frequency from 100 Hz to 5 KHz and record the frequency deviation.

(4). The peak frequency deviation must not exceed ±2.5KHz.

3.1.2.3 Audio Low Pass Filter Response

(1) Connect the equipment in figure 2.

(2) Connect the audio frequency generator as close as possible the input of the post limiter low pass filter within the transmitter under test.

(3) Connect the audio spectrum analyzer to the output of the post limiter low pass filter within the transmitter under test.

(4) Apply a 1000 Hz tone from the audio frequency generator and adjust the level per manufacturer's specifications.

(5) Record the dB level of the 1000 Hz spectral line on the audio spectrum analyzer as LEV1 .

(6) Set the audio frequency generator to the desired test frequency between 3000 Hz and the upper low pass filter limit.

(7) Record audio spectrum analyzer levels, at the test frequency in step (6).

(8) Record the dB level on the audio spectrum analyzer as LEV2 . Method of Measurement for Transmitters .

3.1.3 Test Setup Block Diagram

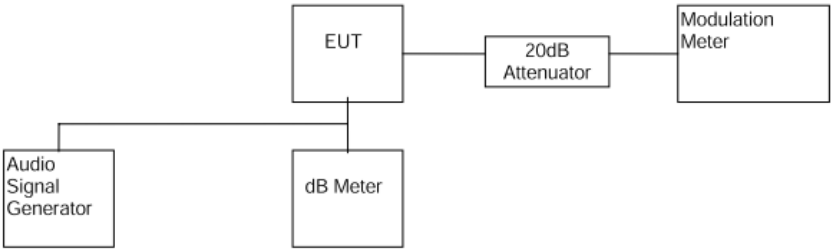


Figure 1

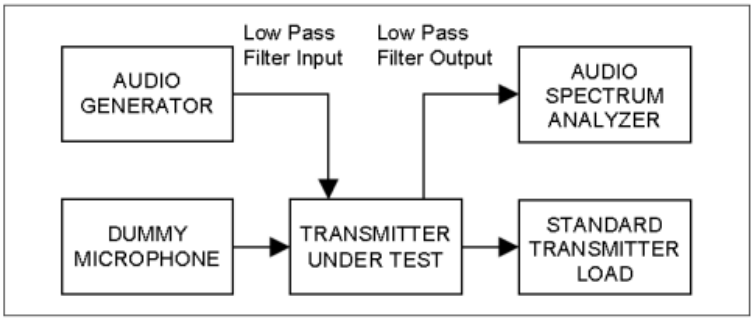


Figure 2

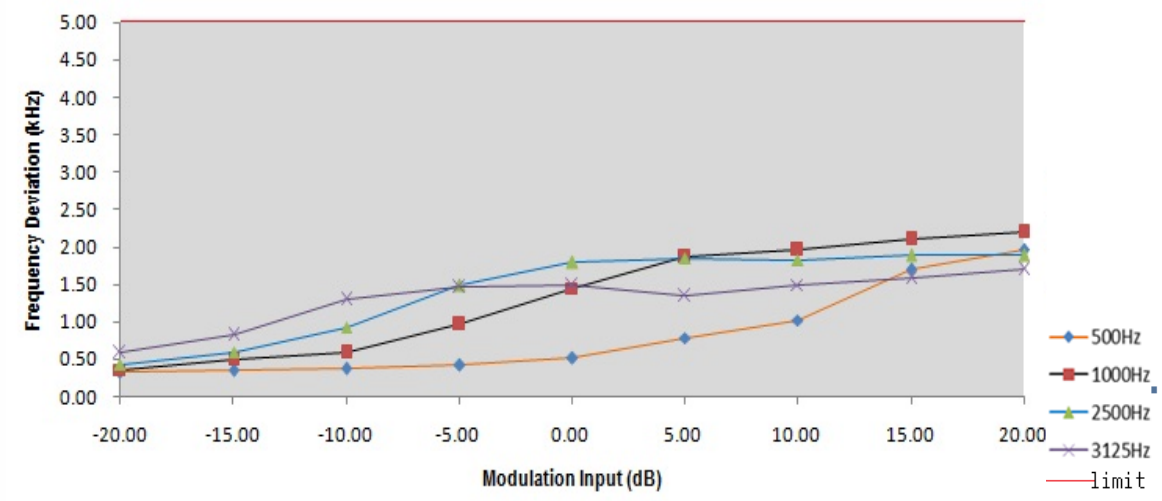
3.1.4 Measurement Instruments

Name Of Equipment	Manufacturer	Model	S/N	Cal. Due Date
Audio Signal Generator	R&S	UPV	17-253527	2013.9.8
Modulation Analyzer	Agilent	8901B	2920A02186	2013.9.8
Attenuator	SHX	DC-13	N.A	N.A

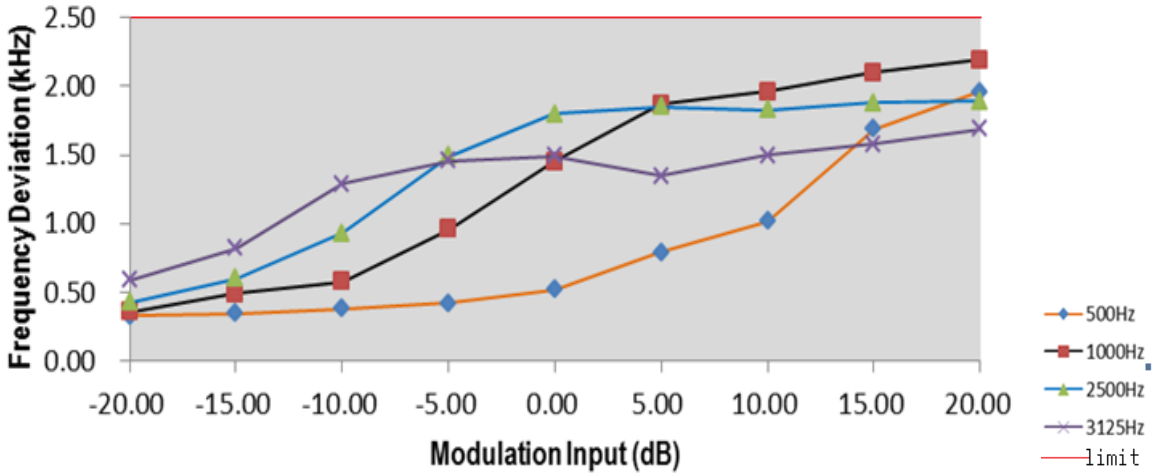
3.1.5 Test Result

a. Frequency deviation:

Channel 4: 462.6375MHz GMRS					
Modulation Input(dB)	Peak Frequency Deviation(KHz) at 500Hz	Peak Frequency Deviation(KHz) at 1000Hz	Peak Frequency Deviation(KHz) at 2500Hz	Peak Frequency Deviation(KHz) at 3125Hz	Limit (KHz)
-20.00	0.31	0.37	0.45	0.61	5.0
-15.00	0.32	0.44	0.63	0.85	5.0
-10.00	0.35	0.61	0.96	1.32	5.0
-5.00	0.40	0.91	1.52	1.50	5.0
0.00	0.55	1.50	1.86	1.52	5.0
5.00	0.75	1.98	1.88	1.50	5.0
10.00	1.13	2.08	1.86	1.54	5.0
15.00	1.72	2.15	1.88	1.62	5.0
20.00	2.09	2.23	1.90	1.73	5.0



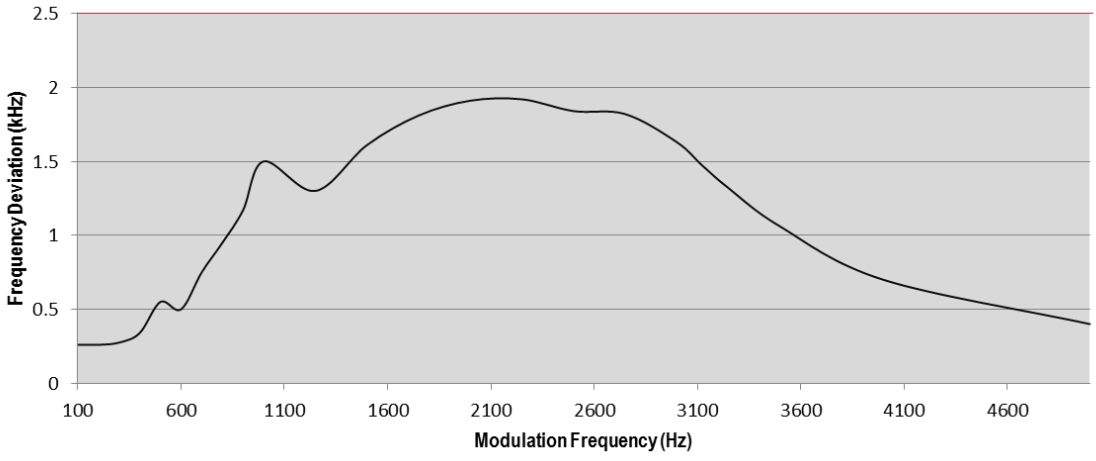
Channel 11 :467.6375MHz FRS					
Modulation Input(dB)	Peak Frequency Deviation(KHz) at 500Hz	Peak Frequency Deviation(KHz) at 1000Hz	Peak Frequency Deviation(KHz) at 2500Hz	Peak Frequency Deviation(KHz) at 3125Hz	Limit (kHz)
-20.00	0.33	0.36	0.43	0.59	2.5
-15.00	0.35	0.49	0.60	0.82	2.5
-10.00	0.38	0.58	0.93	1.29	2.5
-5.00	0.42	0.96	1.49	1.46	2.5
0.00	0.52	1.45	1.80	1.49	2.5
5.00	0.79	1.87	1.85	1.35	2.5
10.00	1.02	1.96	1.83	1.50	2.5
15.00	1.69	2.10	1.88	1.58	2.5
20.00	1.96	2.19	1.89	1.69	2.5



b. Audio Frequency Response

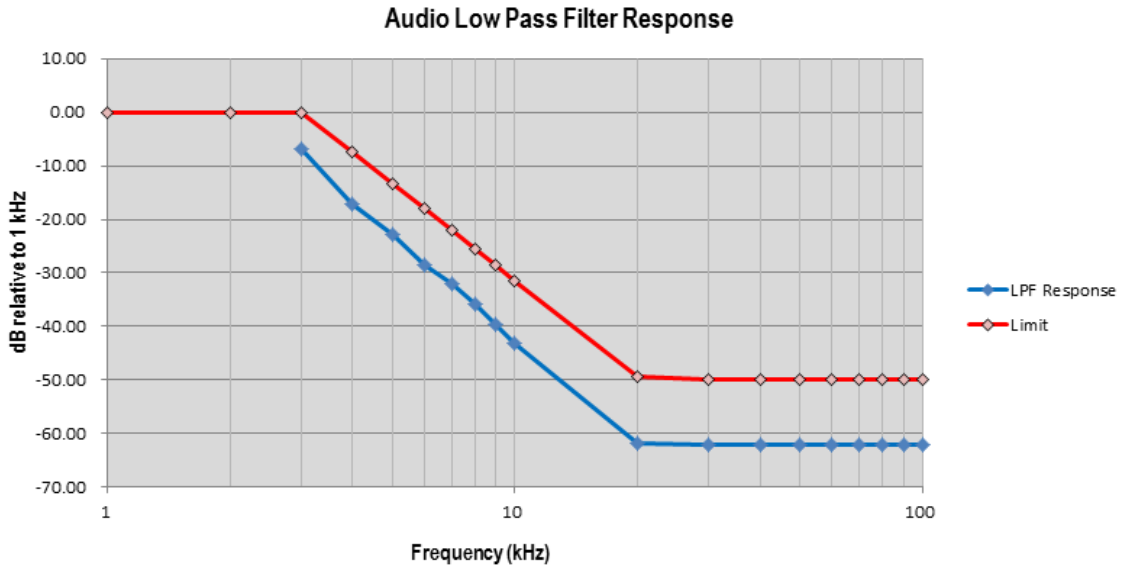
Channel 11 for FRS

Modulation Frequency(Hz)	Peak Modulation Deviation(KHz)	Limit (KHz)
100	0.26	±2.5
200	0.26	±2.5
300	0.26	±2.5
400	0.34	±2.5
500	0.55	±2.5
600	0.50	±2.5
700	0.75	±2.5
800	0.95	±2.5
900	1.17	±2.5
1000	1.50	±2.5
1250	1.30	±2.5
1500	1.61	±2.5
1750	1.81	±2.5
2000	1.91	±2.5
2250	1.92	±2.5
2500	1.84	±2.5
2750	1.82	±2.5
3000	1.63	±2.5
3125	1.47	±2.5
3250	1.32	±2.5
3500	1.06	±2.5
4000	0.70	±2.5
5000	0.40	±2.5



c. Audio Low Pass Filter Frequency Response
Channel 4 for GMRS

Frequency(KHz)	Response	Limit
1	0.00	0.00
2	0.00	0.00
3	-6.93	0.00
4	-17.12	-8.52
5	-22.87	-13.64
6	-28.46	-18.75
7	-32.14	-22.16
8	-35.82	-25.57
9	-39.50	-28.98
10	-43.22	-32.39
20	-61.71	-49.43
30	-62.00	-50.00
40	-62.00	-50.00
50	-62.00	-50.00
60	-62.00	-50.00
70	-62.00	-50.00
80	-62.00	-50.00
90	-62.00	-50.00
100	-62.00	-50.00



Test Result: PASS

4.1 Occupied Bandwidth And Emission Mask

4.1.1 Provisions Applicable

According to §95.633(c) , the authorized bandwidth for emission type F3E or F2D transmitted by a FRS unit is 12.5 kHz. The authorized bandwidth for emission type F1D, G1D, F3E or G3E is 20 kHz.

The power of each unwanted emission shall be less than TP as specified in the applicable paragraphs listed in the following :

1）At least 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.

2）At least 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.

3）At least $43 + 10 \log_{10}$ (T) dB on any frequency removed from the center of the authorized bandwidth by more than 250%, the calculation formulas and limit result refer **Section5.1.5** note 2.

4.1.2 Measurement Procedure

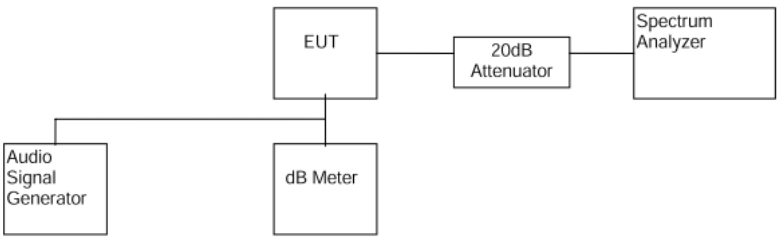
1). The set-up test equipment in the following configuration:

2). Set the level of the audio signal employed is 16 dB greater than that necessary to produce 50% of rated system deviation.

3). Set SPA Center Frequency = fundamental frequency, RBW=VBW= 300 Hz, Span =20 KHz.

4). Set SPA Max hold. Mark peak, -20 dB.

4.1.3 Test Setup Block Diagram

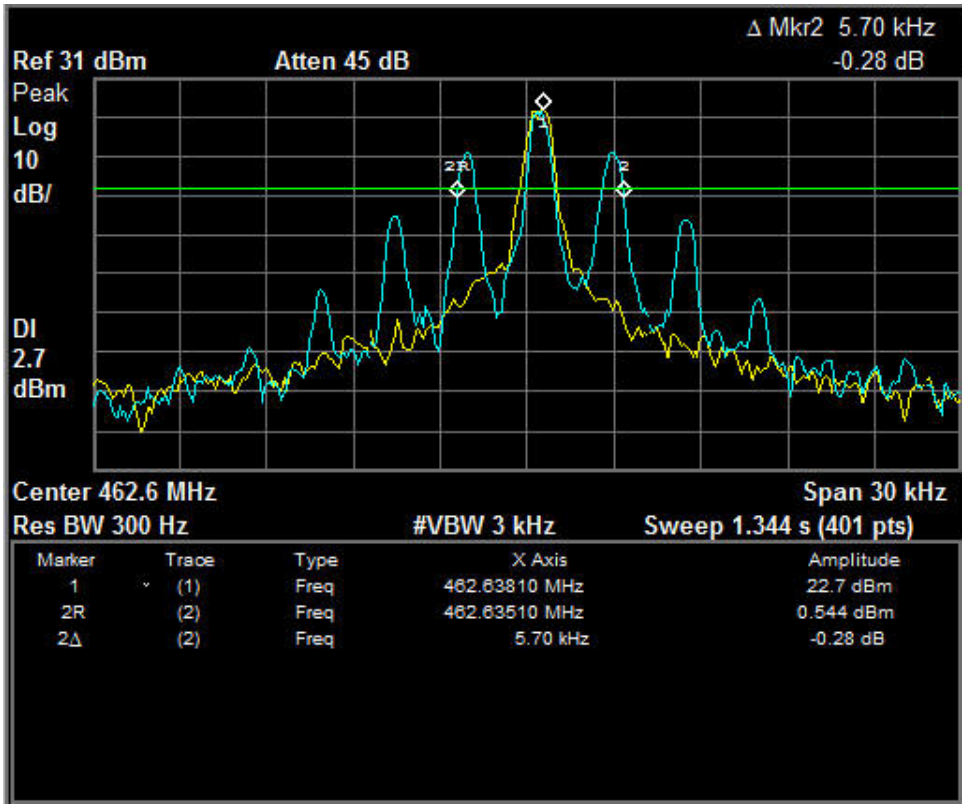


4.1.4 Test Instruments

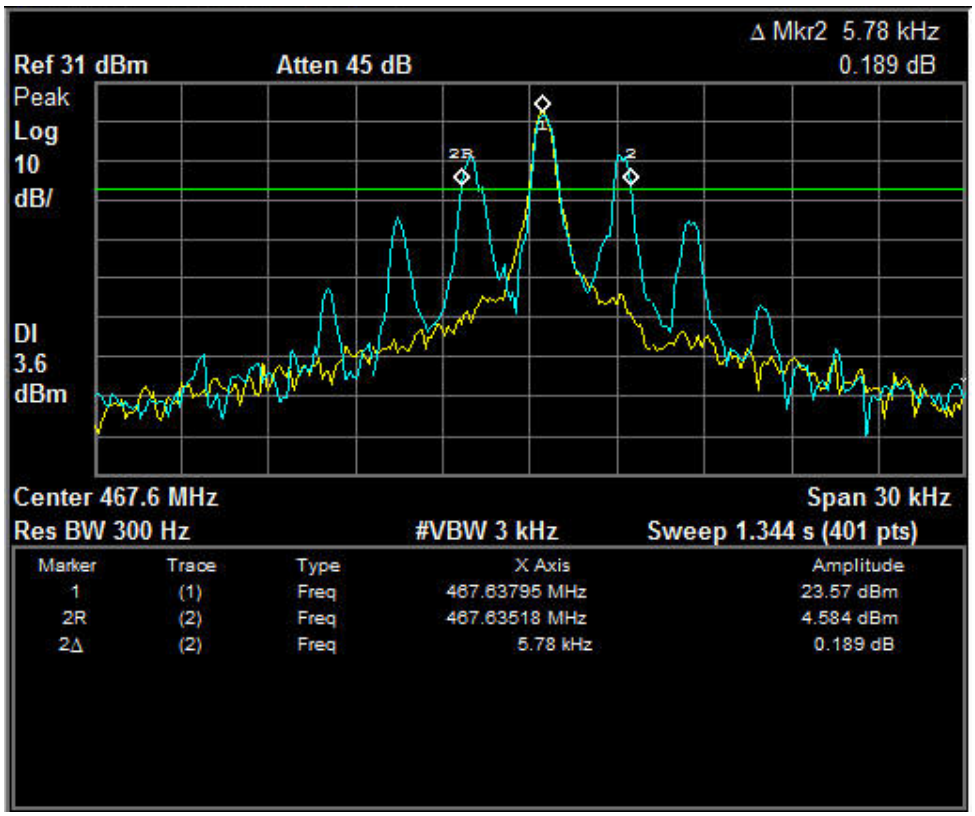
Name Of Equipment	Manufacturer	Model	S/N	Cal. Due Date
Spectrum Analyzer	R&S	FSU-8	200034	2013.6.2
Modulation Analyzer	Agilent	8901B	2920A02186	2013.9.8
Audio Signal Generator	R&S	UPV	17-253527	2013.9.8
Attenuator	SHX	DC-13	N.A	N.A

4.1.5 Test Result

The occupied Bandwidth is measured to be 5.7 KHz for GMRS and 5.78 KHz for FRS

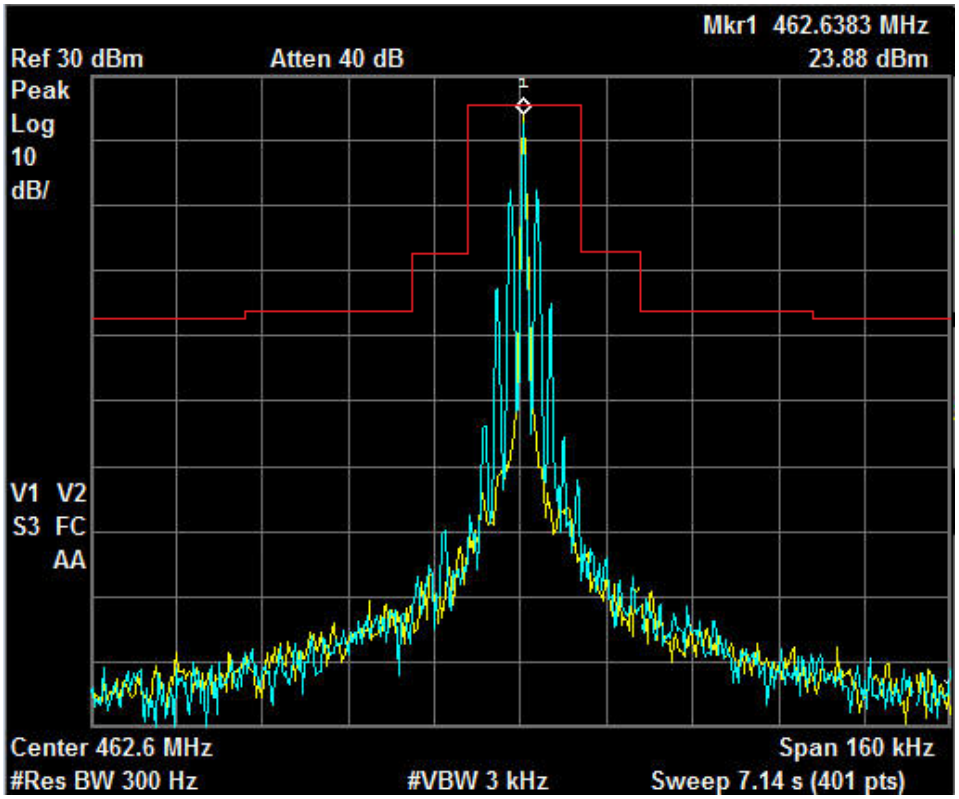


Channel 4 462.6375MHz GMRS

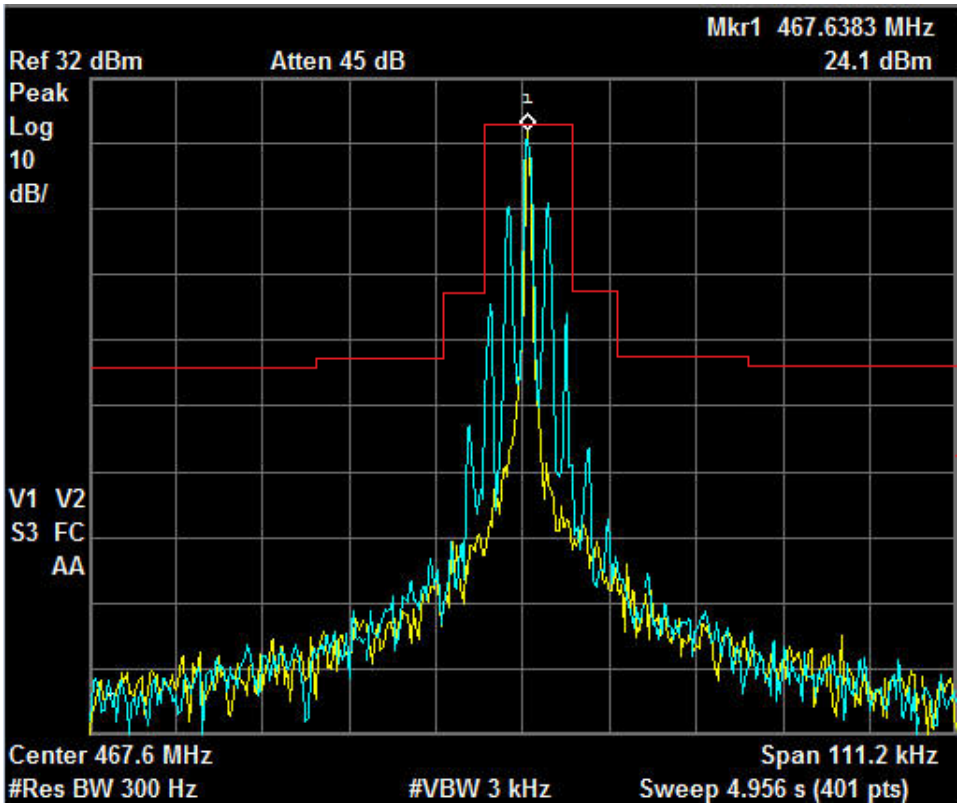


Channel 11 467.6375Mhz FRS

Emission Mask:



Channel 4 :462.6375MHz GMRS



Channel 11:467.6375MHz FRS

Test Result: PASS

5.1 Spurious Emission

5.1.1 Provisions Applicable

According to FCC section 95.635(b7).the unwanted emission should be attenuated below TP by at least 43+10log(Transmit Power)dB .

5.1.2 Measurement Procedure

(1)On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.

(2)The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.

(3)The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.

(4)The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.

(5)The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.

(6)The transmitter shall than be rotated through 360°in the horizontal plane, until the maximum signal level is detected by the measuring receiver.

(7)The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.

(8)The maximum signal level detected by the measuring receiver shall be noted.

(9)The measurement shall be repeated with the test antenna set to horizontal polarization.

(10) Replace the antenna with a proper Antenna (substitution antenna).

(11)The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.

(12)The substitution antenna shall be connected to a calibrated signal generator.

(13)If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.

(14)The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.

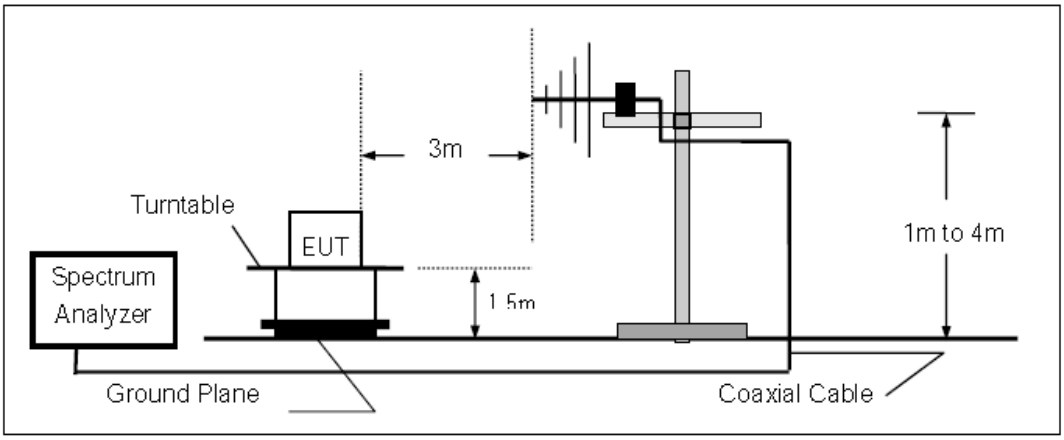
(15)The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated

power was measured, corrected for the change of input attenuation setting of the measuring receiver.

(16)The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.

(17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

5.1.3 Test Setup Block Diagram



5.1.4 Measurement Instruments

Name Of Equipment	Manufacturer	Model	S/N	Cal. Due Date
Test Antenna - Bi-Log	Schaffner	CBL6112B	2529	2013.05
Test Antenna - Bi-Log	Schaffner	Dvulp9118	2529	2013.05
Receiver	R&S	ESU	100204	2013.04
Semi-Anechoic Chamber	ALBATROSS	9m*6m*6m	4771011001	2013.04
Test Antenna - Horn	Dahua	DH610-2	0911120001	2013.05
Test Antenna - Horn	Dahua	DH610-2	89010	2013.05

5.1.5 Test Result

Test mode 1: GMRS mode continue transmitting Channel 4; Frequency= 462.6375MHz;						
Frequency	Polar	Absolute lever	Channel Max. Power	Spurious Attenuation	FCC Part 95 Limit	Margin
MHz	H / V	dBm	dBm	dBc	dBc	dB
925.012	H	-52.90	23.16	76.06	36.16	39.90
1628.429	H	-53.16		76.32	36.16	40.16
2830.424	H	-48.48		71.64	36.16	35.48
925.012	V	-52.98		76.14	36.16	39.98
1384.040	V	-52.06		75.22	36.16	39.06
2805.486	V	-48.61		71.77	36.16	35.61

Test mode 2: FRS mode continue transmitting Channel 11; Frequency= 467.6375MHz;						
Frequency	Polar	Absolute lever	Channel Max. Power	Spurious Attenuation	FCC Part 95 Limit	Margin
MHz	H / V	dBm	dBm	dBc	dBc	dB
934.688	H	-54.33	22.94	77.27	35.94	41.33
1443.890	H	-52.43		75.37	35.94	39.43
2825.436	H	-48.12		71.06	35.94	35.12
934.688	V	-54.64		77.58	35.94	41.64
1369.077	V	-52.43		75.37	35.94	39.43
2610.973	V	-48.54		71.48	35.94	35.54

Note:

1. Spurious Attenuation= Channel Max. Power - Absolute lever
2. Limit= 43+10 log (Channel Max. Power in Watts)
   The limit for channel 4=43+10log (0.207) =36.16 dB
   The limit for channel 11=43+10log (0.197) =35.94 dB
3. Margin= Spurious Attenuation- limit

Test Result: PASS

6.1 Frequency Stability

6.1.1 Provisions Applicable

According to FCC Section 95.627, the frequency stability shall be measured with variation of ambient temperature from –30℃ to +50℃ centigrade. Each FRS unit must be maintained within a frequency tolerance of 0.00025%.

6.1.2 Measurement Procedure

6.1.2.1 Frequency stability versus environmental temperature

1. Setup the configuration per figure 1 for frequencies measurement inside an environment chamber, Install new battery in the EUT.

2. Turn on EUT and set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1KHz and Video Resolution Bandwidth to 1KHz and Frequency Span to 50KHz.Record this frequency as reference frequency.

3. Set the temperature of chamber to 50℃. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.

4. Repeat step 2 with a 10℃ decreased per stage until the lowest temperature -30℃ is measured, record all measured frequencies on each temperature step.

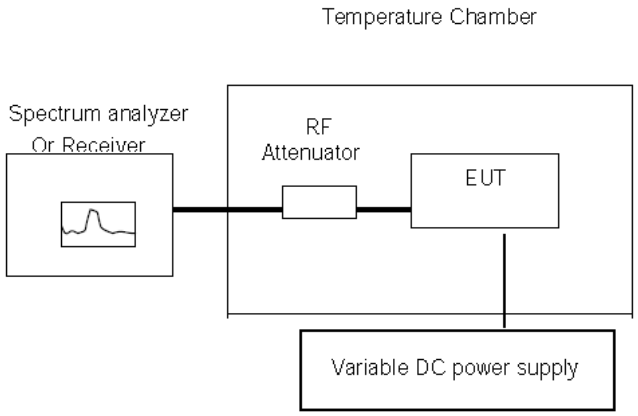
6.1.2.2 Frequency stability versus input voltage

1. Setup the configuration per figure 1 for frequencies measured at temperature if it is within 15℃ to 25℃. Otherwise, an environment chamber set for a temperature of 20℃ shall be used. The EUT shall be powered by DC 4.5 V

2. Set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1 KHz and Video Resolution Bandwidth to 1KHz. Record this frequency as reference frequency.

3. Supply the EUT primary voltage at the operating end point which is specified by manufacturer and record the frequency.

6.1.3 Test Setup Block Diagram



6.1.4 Measurement Instruments

Name Of Equipment	Manufacturer	Model	S/N	Cal. Due Date
Spectrum Analyzer	R&S	FSU-8	200034	2013.6.2
Power Supply	Agilent	66319D	MY43000556	2013.6.2
Climate Chamber	Votsch	VT4002	58566087750080	2014.1.8

6.1.5 Test result

Frequency Tolerance			
Channel	Frequency(MHz)	Measured(MHz)	Tolerance(%)
1	462.5625	462.5633	0.000173
2	462.5875	462.5881	0.000130
3	462.6125	462.6130	0.000108
4	462.6375	462.6384	0.000195
5	462.6625	462.6633	0.000173
6	462.6875	462.6879	0.000086
7	462.7125	462.7133	0.000173
8	467.5625	467.5630	0.000107
9	467.5875	467.5880	0.000107
10	467.6125	467.6131	0.000128
11	467.6375	467.6381	0.000128
12	467.6625	467.6630	0.000107
13	467.6875	467.6881	0.000128
14	467.7125	467.7130	0.000107
15	462.5500	462.5504	0.000086
16	462.5750	462.5754	0.000086
17	462.6000	462.6005	0.000108
18	462.6250	462.6254	0.000086

19	462.6500	462.6505	0.000108
20	462.6750	462.6755	0.000108
21	462.7000	462.7006	0.000130
22	462.7250	462.7254	0.000086

Frequency Deviation With Temperature Variation				
Channel	4			
Temperature(℃)	Assigned Frequency(MHz)	Measured Frequency(MHz)	Deviation (%)	Frequency Tolerance(ppm)
-30	462.6375	462.6379	0.000086	-1.0808
-20	462.6375	462.6381	0.000130	-0.6485
-10	462.6375	462.6381	0.000130	-0.6485
0	462.6375	462.6380	0.000108	-0.8646
10	462.6375	462.6379	0.000086	-1.0808
20	462.6375	462.6384	0.000195	0.0000
30	462.6375	462.6380	0.000108	-0.8646
40	462.6375	462.6378	0.000065	-1.2969
50	462.6375	462.6376	0.000022	-1.7292
Channel	11			
Temperature(℃)	Assigned Frequency(MHz)	Measured Frequency(MHz)	Deviation (%)	Frequency Tolerance(ppm)
-30	467.6375	467.6379	0.000086	-0.4277
-20	467.6375	467.6381	0.000128	0.0000
-10	467.6375	467.6379	0.000086	-0.4277
0	467.6375	467.6379	0.000086	-0.4277
10	467.6375	467.6380	0.000107	-0.2138
20	467.6375	467.6381	0.000128	0.0000
30	467.6375	467.6380	0.000107	-0.2138
40	467.6375	467.6379	0.000086	-0.4277
50	467.6375	467.6376	0.000021	-1.0692
Frequency Tolerance with reference to its value at 20℃				

Frequency Deviation With Voltage Variation				
Channel	Frequency(MHz)	Voltage(V)	Measured(MHz)	Tolerance(%)
4	462.6375	3.6	462.6383	0.000173
		3.7	462.6380	0.000108
		3.8	462.6380	0.000108
		3.9	462.6379	0.000086
		4.1	462.6379	0.000086
		4.2	462.6381	0.000130
		4.3	462.6379	0.000086
		4.4	462.6379	0.000086
		4.5	462.6381	0.000130
11	467.6375	3.6	467.6380	0.000107
		3.7	467.6380	0.000107
		3.8	467.6380	0.000107
		3.9	467.6380	0.000107
		4.1	467.6380	0.000107
		4.2	467.6379	0.000086
		4.3	467.6379	0.000086
		4.4	467.6379	0.000086
		4.5	467.6379	0.000086

Test Result: PASS

7.1 RF exposure evaluation

7.1.1 Test result

This is a portable device which compliance with part 2.1093, please refer to SAR test report.

** END OF REPORT **